AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A digital integrated circuit temperature sensor comprising:

an analog-to-digital converter providing a binary word representative of a temperature internal to the integrated circuit;

a generating circuit for providing an analog voltage representative of the circuit temperature and for generating a reference voltage for the analog-to-digital converter; and

a calibration circuit providing respective high and low conversion thresholds to the converter, the low voltage corresponding to said reference voltage, said calibration circuit comprising:

a first operational amplifier having a non-inverting input receiving said reference voltage and having its output providing said high conversion threshold, the non-inverting input of the first amplifier being connected to the junction point of two variable resistive elements series-connected between the output terminal of the first amplifier and a supply reference potential; and

a second operational amplifier having an inverting input terminal receiving the analog voltage depending on temperature and having a non-inverting input connected to the midpoint of two resistive elements series-connected between the output terminal of said second operational amplifier and said supply reference potential, the second operational amplifier providing an amplified voltage to be converted by said analog-to-digital converter.

2. (Previously Presented) The sensor of claim 1, wherein said generating circuit comprises, in parallel between first, second, third, and fourth terminals of a current mirror all providing an identical current from a high supply rail and copying the voltage of the first terminal on the second one, to a low supply rail, respectively:

a first diode-connected PNP-type bipolar transistor;

a first resistive element in series with a second diode-connected PNP-type bipolar transistor, the second bipolar transistor being of greater size than the first one;

a second resistive element in series with a third diode-connected PNP-type bipolar transistor, the third bipolar transistor being of a size identical to the first one and said third terminal providing

the reference voltage; and

a current-to-voltage conversion element, said fourth terminal providing the analog voltage representative of the temperature.

3. (Previously Presented) The sensor of claim 2, comprising a voltage mirror formed of two N-channel MOS transistors, copying the voltage between said first and second terminals.

4. (Previously Presented) The sensor of claim 2, wherein said conversion element is a resistor.

5. (Previously Presented) The sensor of claim 1, wherein said variable resistive elements are formed of networks of switchable resistors.

6-34. (Canceled)